



Materials

Low Friction Polymer for Chain Tensioner Arms

OEM/Vehicle

Ford Motor Company
2017 Ford F150 / Mustang

System Supplier

Borg Warner

Material Supplier

DSM

Resin

Stanyl HGR2 PA46(+PTFE)



This usage of a modified PA46 resin to enhance stiffness, on vehicles powered by a 5.0L V8 engine, was a drop-in replacement for PA66, for enhanced wear and friction performance. The resultant fuel economy savings (0.4%), from rotational torque reduction in the cam-shaft (0.5Nm), was equivalent to a 40lb weight reduction, and at 1/10th the cost. Annual environmental benefits include reductions in gas consumption by 12,000 Barrels and green-house gas emissions by 5,000 Tons. This innovation is highly translatable, to provide affordable fuel economy improvement, and will be utilized on more Ford vehicles, beginning in 2018. The total potential environmental impact of translations, at Ford, may be multiple times the values noted for the Mustang and F-150.